

REMARKS

1. The limitation of “recovering with trypsin-EDTA” was previously underlined on the amendment dated on 6/14/2011, which was entered. Therefore, the underline is remarked in this amendment. Claims 43-45 were also marked new on 6/14/2011 and are remarked new in this amendment.
2. The claims 36, 37 and 42 are canceled. Thus, the 35 USC 112 rejections are moot. As we mentioned before, the pore size is related to efficiency of recovering mesenchymal stem cells. The range of pore sizes recited in claim 1 certainly can work as well.
3. Claims 1, 4, 6, 9, 11 and 34-35 are rejected under 35 USC 103(a) as obvious over Caplan et al, Prockop and Matsui et al. Applicants respectfully traverse. Three requirements must be met to establish a prima facie case of obviousness. First, the prior art references must teach or consider all of the limitations of the claims. (MPEP§ 2143.03) Second, there must be a common sense rationale to modify the references at issue or to combine the teachings to produce the claimed invention. (MPEP§2143.01) Third, a reasonable expectation of success is required. (MPEP§2143.02) The teaching or suggestion to combine and the expectation of success must both be found in prior art and not based on Applicant’s disclosure. (MPEP§2143)

The “purifying” limitation recited in claim1 was not taught in prior arts. Since the cited references did not teach all the elements of claim 1, the rejection of claim 1 under §103 should be withdrawn.

Furthermore, The Matsui’s 4871674 patent was issued on 10/3/1989. Caplan’s 5811094 patent was applied on 4/11/1995 and issued on 9/22/1998. Prockop’s 7374937 patent was applied on 10/25/2000 (effective date 3/14/2000). This application was filed on 1/17/2001 with the priority date on 10/17/2000. The time frame highly did not support the Office Action that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine these three prior arts and do some modifications.” If it had been obvious, Prockop would have combined the teachings of Matsui and Caplan to reach the method recited in this application. Moreover, Prof. Prockop has been a well known mesenchymal stem cell researcher in the US and the world, but did not reach the method of this application. How would it be obvious to one of ordinary skill in the art? How would they have reasonable expectation of success in this application?

4. This application disclosed that “in one preferred embodiment of the present invention, the isolated mesenchymal stem cells proliferate without differentiation and reach confluence even after 12 passages. The cell populations having greater than 98% homogeneous MSCs are obtained in accordance with the method of the present invention.”[0031] This application adds theses “unexpected results” in claims 43-45. (MPEP 2145 & 716.02) The unexpected results was supported by post-filing art (Kato et al US Patent Application 20050013804, filling date: 09/12/2001), which mentioned that “The conventional culture methods however cannot produce sufficient amounts of mesenchymal stem cells because the proliferation of said stem cells stops or becomes extremely slow around 15th generation.”

Accordingly, this application should be placed in condition of allowance. An early Notice to this effect is respectfully expected.

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